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Clinical Case Reports

Eagle's Syndrome: A Diagnostic Dilemma in Chronic Throat and Neck Pain

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Abstract

Summary: Eagle syndrome is caused by elongation of the styloid process or calcification of the stylohyoid ligament. It is a rare and important cause of chronic neck, pharyngeal, and cervicofacial pain. Its vague symptoms often simulate neurological pain and temporomandibular joint disorders, delaying diagnosis. We present a case report of a 21-year-old male with a one-year history of neck and facial pain that did not respond to medication. It was eventually diagnosed on imaging and successfully managed by styloidectomy via the transoral approach. This case was selected because such cases often remain undiagnosed for many months owing to symptoms that cannot be attributed to any routine disorder. This case report highlights the importance of a timely diagnosis and reinforces the need for a detailed history, comprehensive intraoral examination, and investigations in cases of persistent neck pain.

Keywords: eagle's syndrome, elongated styloid process, stylohyoid.

Introduction

Eagle syndrome is characterised by an elongated styloid process (>30 mm) or calcification of the stylohyoid ligament. Its classic symptoms include recurrent throat pain, dysphagia, foreign body sensation, and earache.[2] Its presentation mimics glossopharyngeal neuralgia, trigeminal neuralgia, and temporomandibular joint (TMJ) disorders, which frequently result in diagnostic confusion and extending the patient's ailment.[3]
CT is the diagnostic gold standard modality, with orthopantomograms and 3D reconstructions as supplemental tools.[4] Surgical options, such as styloidectomy, are the definitive treatment for symptomatic patients and can be performed using either transoral or extraoral approaches.[5] This report presents a young male with chronic throat pain, initially misdiagnosed as neuralgia, who was ultimately diagnosed with Eagle's syndrome and achieved an excellent outcome following surgical management.[6]

Case Presentation

A 26-year-old male student from Attock presented to the ENT OPD of Holy Family Hospital on 25 October 2024 with a one-year history of throat pain radiating to the right side of his face. The pain was intermittent, moderate to severe, and exacerbated by swallowing, mouth opening, and neck movement. The patient also reported persistent foreign body sensation in the throat. His symptoms were temporarily relieved with over-the-counter analgesics.
Over the previous year, he had consulted multiple physicians, a dentist, and an oral and maxillofacial surgeon and received treatments for trigeminal neuralgia, glossopharyngeal neuralgia, and dental issues without success. His medical, surgical, and personal histories were unremarkable.
On examination, the patient was stable. Extraoral examination revealed a symmetrical face. No palpable mass or tenderness was observed on the face, neck, or muscles of mastication during palpation. No tenderness was observed in the temporomandibular joints during mandibular movements. Intraoral examination revealed marked tenderness and a palpable bony lesion in the right tonsillar fossa.

Investigations

Baseline investigations, such as CBC, LFTs, RFTs, and ESR/CRP, were within normal limits. An orthopantomogram (OPG) was performed, which revealed an elongated styloid process. A CT scan of the base of the skull to the clavicle was performed to determine the length of the styloid process. It was significantly enlarged (35 mm in diameter).

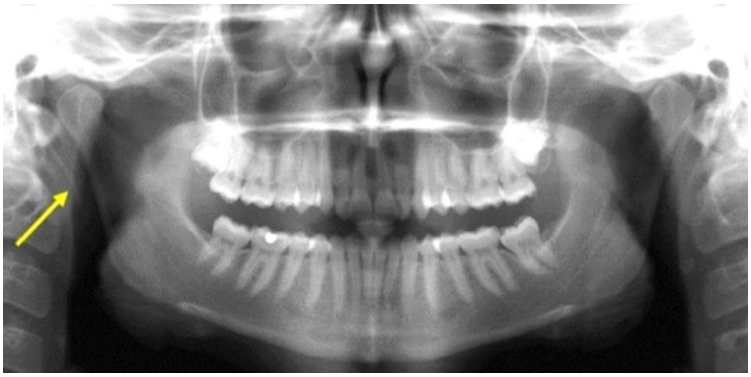

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Figure 1: An orthopantomogram (OPG) is done to see the elongated styloid process. An elongated styloid process can be seen in this OPG

Differential Diagnosis

glossopharyngeal neuralgia, trigeminal neuralgia, temporomandibular joint (TMJ) disorders

Management

After counselling the patient, informed consent was obtained for the surgical intervention. The patient underwent styloidectomy via the transoral approach of the right styloid process under general anaesthesia. The elongated portion was carefully amputated and removed while preserving the neurovascular bundle. Hemostasis was achieved, and the wound was primarily closed. The patient had an uneventful recovery and was discharged on the third postoperative day with a prescription for oral antibiotics, analgesics, and antiseptic mouthwash use.

Outcome And Follow-Up

The patient was followed up at one week and one month with complete resolution of pain and foreign body sensation. The surgical site healed well, without any complications.

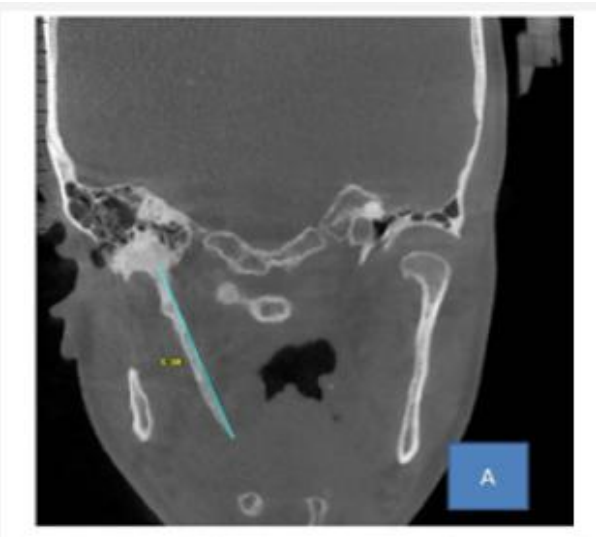

Figure 2: A CT scan of the neck is done to measure the length of the styloid process. This image shows elongation of the right styloid process

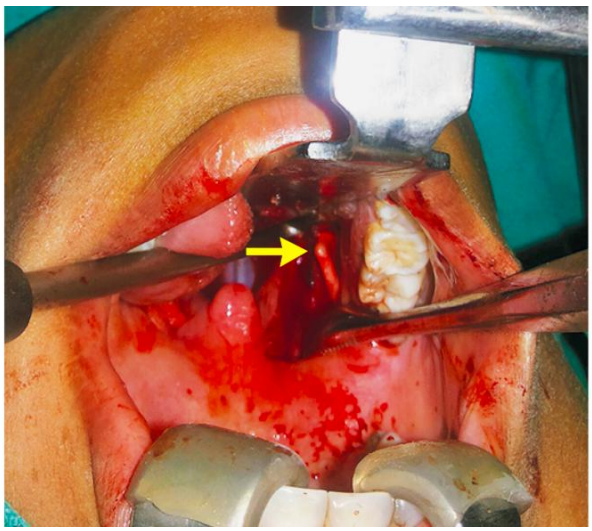

Figure 3: Styloidectomy being done under general anesthesia via transoral approach

Discussion

The diagnosis of Eagle's syndrome has always been a great challenge, as its symptoms correspond with neurological pain and dental pathologies.[7] In our case, the patient underwent multiple assessments and treatments before the definitive diagnosis was made. The mainstay of diagnosis is hidden in clinical suspicion and careful palpation of the tonsillar fossa, which may potentially elicit tenderness over a bony prominence.[8]

Although an OPG can raise suspicion, a CT scan is the gold standard diagnostic tool, clearly demonstrating the styloid length and its relation to nearby structures.[9] Management options comprise conservative therapy with analgesics and steroids; however, surgical excision, that is, styloidectomy, constitutes the definitive management for symptomatic patients.[10]

The transoral approach utilised in our case has the advantages of no external scarring and reduced tissue dissection.[11] However, it demands a meticulous surgical approach to avoid neurovascular injury. The excellent outcome in our patient affirms its safety and efficacy.

Eagle syndrome should be considered in patients with unexplained and refractory throat or facial pain.

A careful intraoral examination of the tonsillar fossa is the cornerstone of early diagnosis. A CT scan is the gold standard investigation that confirms elongation of the styloid process. Transoral styloidectomy offers a cosmetically favourable and effective treatment option.

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